

Liquefaction Susceptibility

- Very High
- High
- Moderate
- Low
- Very Low

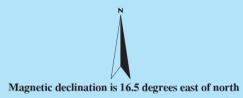
Historical Liquefaction Events

- Pre-Loma Prieta Earthquakes**
- Sand boil (Youd and Hoose, 1978)
 - Ground settlement (Youd and Hoose, 1978)
 - Lateral spread (Youd and Hoose, 1978)

- Loma Prieta Earthquake**
- Sand boil and/or sand intrusion (Seed et al., 1990)
 - Ground settlement, 1989 (Seed et al., 1990)
 - Lateral spread, 1989 (Seed et al., 1990)

Loma Prieta events on the northern San Francisco Peninsula are not shown where they coincide spatially with pre-1989 occurrences. In general, liquefaction occurred in the Marina District, the Old Mission Bay region, and the Embarcadero region, as in the 1906 earthquake.

Notes:
1. See accompanying text for description of units and methodology.
2. All contacts should be considered approximate. This map is based on Quaternary geologic mapping (Plate 1), groundwater information, and the location of historical occurrences of liquefaction (see accompanying text). Information on this map is not sufficient to serve as a substitute for geologic site investigations.



This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic Code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

This database, identified as "Quaternary Geology and Liquefaction Susceptibility, San Francisco, California 1:100,000 Quadrangle: A Digital Database", has been approved for release and publication by the Director of the USGS. Although this database has been subject to rigorous review and is substantially complete, pursuant to further analysis and review. Furthermore, it is released on the condition that neither the USGS nor the United States Government may be held liable for any damages resulting from its authorized or unauthorized use.

U.S. Department of the Interior
United States Geological Survey
Plot derived from
Open-File Report 97-715

Base scanned from U.S. Geological Survey 1:100,000 San Francisco California topographic maps, 1978 editions.
Universal Transverse Mercator projection, zone 10

This map is a plot derived from data contained in the digital database Open-File Report 97-715, "Quaternary Geology and Liquefaction Susceptibility, San Francisco, California 1:100,000 Quadrangle: A Digital Database". A PostScript plot file of this map is included in the Open-File Report, but the Open-File Report does not contain a paper copy of this map. The Open-File Report consists of the digital data and a pamphlet explaining the database and indicating how to obtain the data from which this map was prepared as well as the PostScript plot file of the map. The pamphlet also explains how those without computers can obtain a plot of this map from a private vendor.

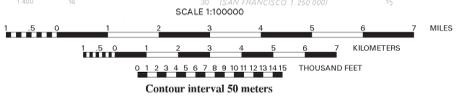


Plate 2 - Liquefaction Susceptibility

QUATERNARY GEOLOGY AND LIQUEFACTION SUSCEPTIBILITY MAPS, SAN FRANCISCO, CALIFORNIA 1:100,000 QUADRANGLE

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